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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,182	01/07/2002	Georg Gros	DNAG 227 - PFF/JRC	1252
24972	7590	12/02/2003	EXAMINER	
FULBRIGHT & JAWORSKI, LLP			TSOY, ELENA	
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NEW YORK, NY 10103-3198			ART UNIT	PAPER NUMBER

1762

DATE MAILED: 12/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/980,182		GROS, GEORG	
	<b>Examiner</b>		<b>Art Unit</b>	
	Elena Tsoy		1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 26-54 is/are pending in the application.
- 4a) Of the above claim(s) 36-45 and 51-54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 26-35, 46-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☒ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 10, 2003 has been entered.

***Response to Amendment***

Amendment filed on November 10, 2003 has been entered. Claims 1-25 have been cancelled. New claims 36-54 have been added. Claims 26-54 are pending in the application.

***Election/Restrictions***

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 26-35, 46-50, drawn to a method of applying a slidable anticorrosive layer to a metallic substrate using a coating mixture.

Group II, claim(s) 36-45, 51-54, drawn to a coating mixture with anticorrosive properties.

The inventions listed as Groups I-II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special

technical feature for the following reasons: the special technical feature common to all the independent claims is a coating mixture comprising a polymer (a polymeric organic binder), a monomer of acrylics (a low-molecular liquid compound to be subjected to free-radical polymerization), oligomer of acrylics (a compound forming radicals under the influence of radiation) and conductive inorganic pigment, which is shown to be obvious over Bristowe et al (US 4,213,837, column 10, lines 31-47). Therefore, the unity does not exist between the groups of claims.

During a telephone conversation with James R. Crawford on November 24, 2003 a provisional election was made with traverse to prosecute the invention of Group I, claims 26-35, 46-50. Affirmation of this election must be made by applicant in replying to this Office action. Claims 36-45, 50-54 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

*Claim Objections*

1. Claim 46 is objected to because of the following informalities: Claim 46 should incorporate language of claim 36, because claim 36 is of non-selected Group II.

*Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 26, 29, 31, 34, 46, 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bristowe et al (US 4,213,837).

Bristowe et al disclose a method of applying an anticorrosive layer (See column 7, line 27) to a metallic substrate (See column 7, line 9) such as steel Q-panel (a flexible steel sheet) (See column 7, line 13) comprising applying to the surface of the metallic substrate a coating mixture, said coating mixture consisting of a vinyl ester urethane (a polymeric organic binder) (See column 1, lines 9-11), a reactive vinyl monomer (a low-molecular liquid compound) (See column 6, lines 63-66; example 14); photosensitizer such as benzophenone (a compound forming free radicals under the influence of actinic radiation) (See column 10, line 37; column 12, line 11); and fillers such as magnetic iron oxides (conductive inorganic) to alter physical properties of the final product (See column 7, lines 5-6), and curing the applied coating by heat or radiation (See column 7, lines 14-21) to form the corrosion-resistant layer (See column 7, lines 27-28).

Bristowe et al fail to teach that the coating mixture comprises at least 10 wt % of the conductive inorganic (Claims 26, 31, 46).

It is well known in the art that properties of a coating composition depend on concentration of components. In other words, concentration limitations are result-effective parameters in a coating process.

It is held that it is not inventive to discover the optimum or workable ranges of result-effective variables by routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant concentration parameters of a conductive inorganic (including those of claims 26, 31, 46) in a method of Bristowe et al through routine experimentation in the absence of a showing of criticality.

As to claimed properties, the corrosion-resistant layer in Bristowe et al would have claimed properties, i.e. it is firm, hard, tough and slidable (i.e. smooth, see specification, page 4) since the layer is produced by a method identical or substantially identical to that of claimed invention. It is held that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, *claimed properties or functions are presumed to be inherent*. See MPEP 2111.02, 2112.01. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). “When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.” In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

As to claims 29, 34, 49, the coating may be cured by radiation right after applying to the metallic surface (See column 12, lines 13-14). Thermal post-curing is not addressed because it is *optional*.

4. Claims 26-30, 46-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kulkarni (US 6,054,514).

Kulkarni discloses a method of applying an anticorrosive layer to a metallic substrate comprising applying to the surface of the metallic substrate such as cold rolled steel Q-panel (a flexible steel sheet) (See column 5, lines 53-54) a coating mixture, said coating mixture comprising a polymer of acrylics (a polymeric organic binder), a monomer of acrylics (a low-molecular liquid compound) and oligomer of acrylics (See column 1, lines 11-19; column 10, lines 9-16); conductive inorganic such as aluminum tripolyphosphate (phosphate of aluminum) (See column 8, lines 21-22; column 10, lines 43-44), and curing the applied coating by heat, radiation or simply by air drying to form the corrosion-resistant layer (See column 5, lines 13-14).

Kulkarni fails to teach that the coating mixture comprises at least 10 wt % of the conductive inorganic (Claims 26, 46).

It is well known in the art that properties of a coating composition depend on concentration of components. In other words, concentration limitations are result-effective parameters in a coating process.

It is held that it is not inventive to discover the optimum or workable ranges of result-effective variables by routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant concentration parameters of a conductive inorganic (including at least 10 wt % of claim 16) in a method of Kulkarni through routine experimentation in the absence of a showing of criticality.

As to claimed properties, the corrosion-resistant layer in Kulkarni would have claimed properties, i.e. it is firm, hard, tough and slidable (i.e. smooth, see specification, page 4) since the layer is produced by a method identical or substantially identical to that of claimed invention. It is held that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, *claimed properties or functions are presumed to be inherent*. See MPEP 2111.02, 2112.01. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

As to claims 27, 47, the coating mixture is applied to obtain a layer thickness of *at least* 0.1 mils (2.54 microns) (See column 5, lines 9-11). Thus, a layer thickness of Kulkarni is within claimed broad thickness range of 2-8 microns, as well as within a preferred range of 3-7 microns.

As to claims 28, 30, 48, 50, Kulkarni teaches that it is well known in the art that organic coatings have long been used for corrosion protection due to their barrier properties. Coatings that provide active corrosion inhibition such as zinc rich coatings and chromates, phosphates and the like, have been the mainstay of the industry for many years. The zinc rich coatings provide cathodic protection, while the chromates and phosphates are believed to passivate the metal.



Innumerable inorganic pigments and fillers have been so claimed to provide corrosion protection. Multiple coatings are often necessary to overcome non-uniformities and pin holes that are the source of corrosion in organic coatings. See column 1, lines 23-34.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided active corrosion inhibition such as zinc rich coatings and chromates under the organic coating of Kulkarni with the expectation of overcoming non-uniformities and pin holes that are the source of corrosion in organic coatings, well known in the art.

As to claims 29, 49, the coating may be cured by radiation right after applying to the metallic surface (See column 5, lines 13-14). Thermal post-curing is not addressed because it is *optional*.

5. Claims 27, 28, 30, 32, 33, 35, 47, 48, 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bristowe et al (US 4,213,837 in view of Kulkarni (US 6,054,514).

Bristowe et al fail to teach that both organic coatings and zinc rich coatings or chromates can be used for providing the metallic substrate with active corrosion inhibition (Claims 28, 30, 33, 35, 48, 50); the coating mixture is applied to obtain a layer thickness of 2-8 microns (Claims 27, 32, 47).

As to claims 28, 30, 33, 35, 48, 50, Kulkarni teaches that it is well known in the art that organic coatings have long been used for corrosion protection due to their barrier properties. Coatings that provide active corrosion inhibition such as zinc rich coatings and chromates, phosphates and the like, have been the mainstay of the industry for many years. The zinc rich coatings provide cathodic protection, while the chromates and phosphates are believed to passivate the metal. Innumerable inorganic pigments and fillers have been so claimed to provide

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corrosion protection. Multiple coatings are often necessary to overcome non-uniformities and pin holes that are the source of corrosion in organic coatings. See column 1, lines 23-34.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided active corrosion inhibition such as zinc rich coatings and chromates under the organic coating of Bristowe et al with the expectation of overcoming non-uniformities and pin holes that are the source of corrosion in organic coatings, as taught by Kulkarni.

As to claims 27, 32, 47, Bristowe et al further teach that vinyl ester urethanes have unexpected low viscosity (See column 7, lines 30-36), and the amount of vinyl monomer solvent employed can be varied over a wide range depending upon the intended use of the composition (See column 6, lines 63-65). In other words, a coating composition can be diluted to have very low viscosity depending upon the intended use of the composition so that very thin coatings may be achieved.

Kulkarni teaches that anti-corrosive coating mixture can be applied to obtain a layer thickness of *at least* 0.1 mils (2.54 microns) (See column 5, lines 9-11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the coating mixture of Bristowe et al to obtain thin layers including layers of *at least* 0.1 mils (2.54 microns) depending upon the intended use of the final product. Kulkarni teaches that anti-corrosive coating mixture can be applied to obtain a layer thickness of *at least* 0.1 mils (2.54 microns).

6. The prior art made of record and not relied upon is considered pertinent to applicant disclosure.

Crivello (US 4,139,385), Crivello shows that benzophenone is a free radical photoinitiator.

*Response to Arguments*

7. Applicant's arguments with respect to claims 26-35, 46-50 have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is (703) 605-1171. The examiner can normally be reached on Mo-Thur. 9:00-7:30, Mo-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for all communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Elena Tsoy  
Examiner  
Art Unit 1762

November 25, 2003